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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CITRIC ACID 50% (Food Grade)

Recommended use of the chemical and restrictions on use

Recommended use : Food/Drug

Kosher

Manufacturer or supplier's details

Company : Univar Solutions USA, Inc. **Address** : 3075 Highland Pkwy Suite

3075 Highland Pkwy Suite 200 Downers Grove, IL 60515 United States of America (USA)

Emergency telephone number:

Transport North America: CHEMTREC (1-800-424-9300) CHEMTREC INTERNATIONAL Tel # 703-527-3887

Additional Information: : Responsible Party: Product Compliance Department

E-mail: SDSNA@univarsolutions.com SDS Requests: 1-855-429-2661 Website: www.univarsolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion : Category 1

Serious eye damage : Category 1

Specific target organ toxicity

- single exposure

: Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :





Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statements : Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection. Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT

induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately

all contaminated clothing. Rinse skin with water/ shower.

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> P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON

CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363 Wash contaminated clothing before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container

tightly closed.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

CAS-No.	Chemical name	Weight percent
77-92-9	Citric acid	50 - 70

Any Concentration shown as a range is due to batch variation.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician.

If on skin, rinse well with water. If on clothes, remove clothes,

In case of eye contact : Immediately flush eye(s) with plenty of water.

> Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

Take victim immediately to hospital.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Do not induce vomiting without medical advice.

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SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO2)

Foam

Dry chemical

: High volume water jet

Unsuitable extinguishing

media

fighting

: Do not allow run-off from fire fighting to enter drains or water

courses.

Hazardous combustion prod-

Specific hazards during fire-

ucts

: Carbon oxides

Further information : Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Special protective equipment

for firefighters

: Wear self-contained breathing apparatus for firefighting if nec-

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

tive equipment and emer-

gency procedures

Personal precautions, protec- : Use personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Neutralize with chalk, alkali solution or ammonia.

Soak up with inert absorbent material (e.g. sand, silica gel,

acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against

fire and explosion

: Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.

> Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Dispose of rinse water in accordance with local and national

regulations.

: Keep container tightly closed in a dry and well-ventilated Conditions for safe storage

place.

Electrical installations / working materials must comply with

the technological safety standards.

Materials to avoid : Do not store near acids.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to

maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Skin and body protection : Impervious clothing

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Clear, colorless, light yellow

Odour : mild, odorless
Odour Threshold : No data available

pH : 1 - 3 @ 20 - 25 °C (68 - 77 °F)

Freezing Point (Freezing

Point)

: -15 - -10 °C (5 - 14 °F)

Boiling Point (Boiling point/boiling range)

: 100 - 105 °C (212 - 221 °F)

Flash point : Not applicable

Evaporation rate : No data available Flammability (solid, gas) : No data available Upper explosion limit : No data available

Lower explosion limit : No data available

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Vapour pressure : 6.9 mmHg @ 20 °C (68 °F)

Relative vapour density : 0.2 @ 20 - 25 °C (68 - 77 °F)

(Air = 1.0)

Relative density : 1.24 - 1.27 @ 25 °C (77 °F)

Reference substance: (water = 1)

Density : No data available

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : No data available Partition coefficient: n- : No data available

octanol/water

Auto-ignition temperature : No data available Thermal decomposition : No data available

Viscosity

Viscosity, dynamic : 10 - 12 mPa.s

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions Conditions to avoid ac- : Gives off hydrogen by reaction with metals.

: Keep away from heat, flame, sparks and other ignition

sources. Incompatible materials : Metals

Oxidizing agents Reducing agents

Bases nitrates

Hazardous decomposition

products

: Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Serious eye damage/eye irritation

Components:

77-92-9:

Species: Rabbit

Result: Irritating to eyes.

Carcinogenicity

IARC No component of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed

human carcinogen by IARC.

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OSHA No component of this product present at levels greater than or

equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or

equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

ACGIH No component of this product present at levels greater than or

equal to 0.1% is identified as a carcinogen or potential carcino-

gen by ACGIH.

STOT - single exposure

Components:

77-92-9:

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Pro-

tection of Stratospheric Ozone - CAA Section 602 Class I

Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological infor- : No data available

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and

federal regulations.

For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Uni-

var Solutions ChemCare: 1-800-637-7922

Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation): Not regulated as a dangerous good

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting re-

quirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to

Know Act.

Pennsylvania Right To Know

77-92-9 Citric acid 50 - 70 %

New Jersey Right To Know

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77-92-9 Citric acid 50 - 70 %

California Prop 65 : This product does not contain any chemicals known to State

of California to cause cancer, birth defects, or any other re-

productive harm.

The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PHIL : On the inventory, or in compliance with the inventory

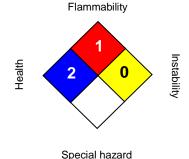
IECSC : On the inventory, or in compliance with the inventory



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SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Univar Solutions Product Compliance Department (1-855-429-2661) SDSNA@univarsolutions.com.

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16170897, 16170903, 16180505, 16148815, 16164175, 16164333, 16148431, 16147594, 16151189, 16165323, 16138741, 16143523, 16160543, 16160625, 16160636, 16160648, 16160674, 16147501, 16158867, 16148636, 16149772, 16147851, 16144358, 16148047, 16151623, 16150296, 16148403, 16145930, 16149537, 16148043, 16141937, 16141628, 16141538, 16141836

Key or legend to abbreviations and acronyms used in the safety data sheet					
ACGIH	American Conference of Govern-	LD50	Lethal Dose 50%		
	ment Industrial Hygienists				
AICS	Australia, Inventory of Chemical	LOAEL	Lowest Observed Adverse Effect		
	Substances		Level		
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency		
NDSL	Canada, Non-Domestic Substanc-	NIOSH	National Institute for Occupational		
	es List		Safety & Health		
CNS	Central Nervous System	NTP	National Toxicology Program		
CAS	Chemical Abstract Service	NZloC	New Zealand Inventory of Chemi-		
			cals		
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect		
			Level		
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration		
EGEST	EOSCA Generic Exposure Scenar-	OSHA	Occupational Safety & Health		
	io Tool		Administration		



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EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and
			Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		